

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: Pradip Mukerji, et al.

Serial No.: 10/054,534

Filed: January 22, 2002

For: DESATURASE GENES AND USES THEREOF

Attorney Docket No.: 6763.US.P1

Group Art Unit: 1636

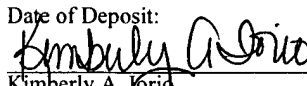
Examiner: Daniel M. Sullivan

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**REVISED INFORMATION DISCLOSURE STATEMENT SUBMITTED IN RESPONSE**  
**TO OFFICE ACTION OF DECEMBER 30, 2003**

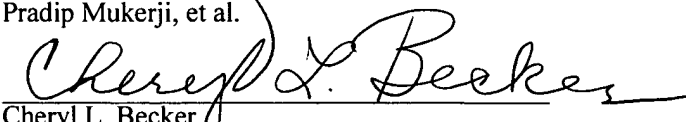
The following information is submitted pursuant to 37 C.F.R. §1.97 and §1.98 in accordance with Applicants' duty of disclosure under 37 C.F.R. §1.56. This submission is not an admission that the documents cited herein are prior art as to the invention claimed. In accordance with 37 CFR §§1.97(g)-(h), the filing of this Revised Information Disclosure Statement shall not be construed to mean that a search has been made or that other material information as defined by 37 CFR §1.56(b) exists.

In response to the First Office Action dated December 30, 2003, Applicants submit herewith four amended PTO-1449 forms listing the references known to them. Applicants respectfully request that the Examiner (1) initial each reference listed on the enclosed amended PTO-1449 forms indicating that the Examiner has considered and made those references of record in this application and (2) return a copy of the initialed, amended PTO-1449 forms to Applicants. Copies of the references listed were previously submitted in the present application on January 7, 2003 and May 12, 2003.

This Revised Information Disclosure Statement is submitted after the first Office Action on the merits, but before the issuance of a final action or a notice of allowance. Authorization to charge Deposit Account No. 01-0025 in the amount necessary to cover the cost of this Revised Information Disclosure Statement under 37 C.F.R. 1.17(p) is provided in the Transmittal Letter, submitted herewith.

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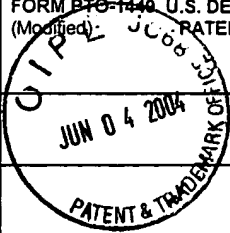
Respectfully submitted,  
Pradip Mukerji, et al.

  
Cheryl L. Becker  
Registration No. 35,441  
Attorney for Applicants

DATE: June 1, 2004

SHEET 1 of 2

## Form PTO - 1449 (Modified)

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE (Modified) PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 6763.US.P1	SERIAL NO. 10/054,534
 INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (Use several sheets if necessary)		APPLICANT P. Mukerji, et al.	
		FILING DATE January 22, 2002	GROUP 1632

(37 CFR 1.98 (b))

## U.S. PATENT DOCUMENTS

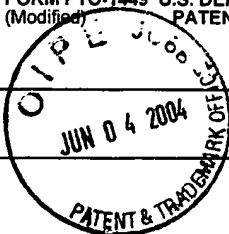
EXAMINER INITIAL		PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUB CLASS	FILING DATE
	A1	5,447,974	08/22/1995	Hitz, et al.			
	A2	5,552,306	09/03/1996	Thomas, et al.			
	A3	5,912,120	06/15/1999	Goldstein, et al.			
	A4	5,107,065	04/21/1992	Shewmaker, et al.			
	A5	5,231,020	07/27/1993	Jorgensen, et al.			
	A6	4,945,050	07/31/1990	Sanford, et al.			
	A7	4,683,202	07/28/1987	Mullis			
	A8	4,582,788	04/15/1986	Erlich			
	A9	4,683,194	07/28/1987	Saiki, et al.			
	A10	5,750,176	05/12/1998	Prieto, et al.			
	A11	5,700,671	12/23/1997	Prieto, et al.			
	A12	5,463,174	10/31/1995	Moloney, et al.			
	A13	4,943,674	07/24/1990	Houck, et al.			
	A14	5,106,739	04/21/1992	Comai, et al.			
	A15	5,175,095	12/29/1992	Martineau, et al.			
	A16	5,420,034	05/30/1995	Kridl, et al.			
	A17	5,188,958	02/23/1993	Moloney, et al.			
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	A19	5,004,863	04/02/1991	Umbeck			
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	A21	5,518,908	05/21/1996	Corbin, et al.			
	A22	5,569,834	10/29/1996	Hinchee, et al.			
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	A25	4,826,877	05/02/1989	Stewart, et al.			
	A26	4,666,701	05/19/1987	Horrobin, et al.			
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## FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

		DOCUMENT NUMBER	PUBLIC-ATION	COUNTRY OR PATENT OFFICE	CLASS	SUB CLASS	TRANS- LATION	
			DATE				YES	NO
	B1	WO 93/11245	06/10/1993	PCT				
	B2	WO 94/11516	05/26/1994	PCT				
	B3	WO 96/13591	05/09/1996	PCT				
	B4	50424	09/18/1985	EPO				
	B5	84796	05/12/1990	EPO				
	B6	258017	04/16/1997	EPO				
	B7	237362	10/21/1998	EPO				
	B8	201184	12/16/1992	EPO				
	B9	WO 95/24494	09/14/1995	PCT				
EXAMINER				DATE CONSIDERED				
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								

(Form PTO-1449)

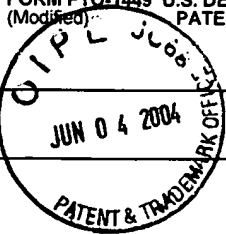
## Form PTO - 1449 (Modified)

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT	APPLICANT P. Mukerji, et al.	
(Use several sheets if necessary)	FILING DATE January 22, 2002	GROUP 1632

## OTHER DOCUMENTS (Including Author, Title, Date, Place of Publication)

C1	The Faseb Journal, Abstracts, Part I, Abstract 3093, p. A532, Experimental Biology 98, San Francisco, CA (4/18-22/1998)
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C5	Ingelbrecht, et al., Plant Cell, Different 3' End Regions Strongly Influence the Level of Gene Expression in Plant Cells, 1:671-680 (1989)
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FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE (Modified) PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO.  6763.US.P1	SERIAL NO.  10/054,534
 INFORMATION DISCLOSURE STATEMENT BY APPLICANT	APPLICANT  P. Mukerji, et al.	
(Use several sheets if necessary)	FILING DATE  January 22, 2002	GROUP  1632

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C27	Zhang & Wu, <u>Theor. Appl. Genet.</u> , Efficient Regeneration of Transgenic Plants from Rice Protoplasts and Correctly Regulated Expression of the Foreign Gene in the Plants, 76:835 (1988)
C28	Baltraw & Hall, <u>Plant Sci.</u> , Expression of a Chimeric Neomycin Phosphotransferase II Gene in First and Second Generation Transgenic Rice Plants, 86:191-202 (1992)
C29	Christou, et al., <u>Biol Technology</u> , Production of Transgenic Rice ( <i>Oryza Sativa</i> L.) Plants From Agronomically Important Indica and Japonica Varieties Via Electric Discharge Particle Acceleration of Exogenous DNA Into Immature Zygotic Embryos, 9:957 (1991)
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C31	Bower & Birch, <u>Plant J.</u> , Transgenic Sugarcane Plants Via Microprojectile Bombardment, 2:409 (1992)
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C34	Marcotte, et al., <u>Nature</u> , Regulation of a Wheat Promoter by Absciscic Acid in Rice Protoplasts, 335:454-457 (1988)
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C36	McCarty, et al., <u>Cell</u> , The Viviparous-1 Developmental Gene of Maize Encodes a Novel Transcriptional Activator, 66:895-905 (1991)
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C38	Goff, et al., <u>EMBO J.</u> , Transactivation of Anthocyanin Biosynthetic Genes Following Transfer of B Regulatory Genes into Maize Tissues, 9:2517-2522 (1990)
C39	Horrobin, et al., <u>Am. J. Clin. Nutr.</u> , Fatty Acid Metabolism in Health and Disease: The Role of $\Delta$ -6-Desaturase, 57:7325-7345
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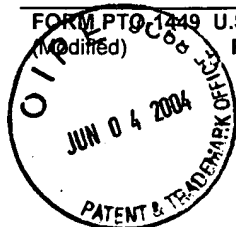
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## Form PTO - 1449 (Modified)

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE  
(Modified) PATENT AND TRADEMARK OFFICEINFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

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6763.US.P1

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## U.S.PATENT DOCUMENTS

EXAMINER INITIAL		PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUB CLASS	FILING DATE
	A1	5,972,664 A	10/26/1999	Knutzon, et al.			

## FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

		DOCUMENT NUMBER	PUBLIC- ATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUB CLASS	TRANS- LATION YES NO
	B1	WO 93/06712 A	04/15/93	PCT			
	B2	WO 00/20603 A	04/13/00	PCT			
	B3	WO 02/26946	04/04/02	PCT			
	B4	WO 99/61602 A	12/02/99	PCT			
	B5	1035207 A	09/13/00	EPO			
	B6	WO 00/0075341	12/14/00	PCT			

## OTHER DOCUMENTS (Including Author, Title, Date, Place of Publication)

C1	Qiu, Xiao, et al., "Identification of a DELTA4 Fatty Acid Desaturase from Thraustochytrium sp. Involved in the Biosynthesis of Docosahexanoic Acid by Hetrologous Expression in Saccharomyces Cerevisia and Brassica Juncea," <u>Journal of Biological Chemistry</u> , Vol. 276, No. 34, (08/24/01) pages 31561-31566
C2	Saito, Tamao and Ochia, Hiroshi, "Identification of DELTA5-Fatty Acid Desaturase from the Cellular Slime Mold Dictyostelium Discoideum," <u>Eur. J. Biochem.</u> , Vol. 265, (1999), pages 809-814
C3	Leonard, Amanda E., et al., "cDNA Cloning and Characterization of Human DELTA5-Desaturase Involved in the Biosynthesis of Arachidonic Acid," <u>Biochem J.</u> , Vol. 347, (2000), pages 719-724
C4	Cho, Hyekyung P., et al., "Cloning, Expression, and Fatty Acid Regulations of the Human DELTA-5 Desaturase," <u>The Journal of Biological Chemistry</u> , Vol. 274, No. 52, (12/24/99) pages 37335-37339
C5	Sakuradani, Eiji, et al., "DELTA6-Fatty Acid Desaturase from and Arachidonic Acid-Producing Mortierella Fungus Gene Cloning and its Heterologous Expression in a Fungus, Aspergillus," <u>GENE: An International Journal on Genes and Genomes</u> , Vol. 238, No. 2, (1999), pages 445-453
C6	Huang, Yung-Sheng, et al., "Cloning of DELTA12- and DELTA6-Desaturases from Mortierella Alpina and Recombinant Production of GAMMA-Linolenic Acid in Saccharomyces Cerevisiae," <u>Lipids</u> , Vol. 34, No. 7, (07/99), pages 649-659
C7	Alonso, D. Lopez, et al., "Plants as 'Chemical Factories' for the Production of Polyunsaturated Fatty Acids," <u>Biotechnology Advances</u> , Vol. 18, (2000), pages 481-497

EXAMINER

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